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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,601	02/18/2004	Vidya Narayanan	CM06694H	5141

22917 7590 11/25/2005

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EXAMINER	
NGUYEN, QUANG N	
ART UNIT	**PAPER NUMBER**
2141	

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,601	NARAYANAN ET AL.	
	Examiner	Art Unit	
	Quang N. Nguyen	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. This Office Action is in response to the Amendment filed on 10/31/2005. Claims 1, 11, and 23-24 have been amended. Claims 1-26 remain for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 9-10 and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsirtsis (US 2004/0148428 A1).

4. As to claims 1 and 25, Tsirtsis teaches a method and system for supporting Mobile IP management in a communications system, comprising:

receiving a first care-of-address for a first mobile node *(when a mobile node visits a foreign network, its temporary local address or care of address is registered back with the home agent 550)* (Tsirtsis, Fig. 5 and paragraphs [0004] and [0037]);

detecting an edge mobility agent having knowledge of said first care-of-address *(home agent 550 receives the message 513 containing the care of address registered by the mobile node from the foreign agent 540)* (Tsirtsis, paragraph [0037]);

determining, based upon at least one condition, that the edge mobility agent can perform local routing of at least one diagram for said first mobile node without the at least one datagram being tunneled through a mobility server *(with addresses of directly connected nodes to the access node 300 stored in its state information 310 as illustrated in Fig. 3, its mobility agent module 302 can forward the decapsulated diagram to the end mobile node 1 or the end mobile node X directly connected to access node 300 via a wireless link, i.e., performs local routing the diagram for the mobile node without the at least one datagram being tunneled through a mobility server)* (Tsirtsis, Fig. 3 and paragraphs [0027 - 0028]); and

instructing said edge mobility agent to perform local routing of at least one datagram between said first mobile node and a second mobile node that has a second care-of-address that is known to said edge mobility agent *(since state information 310 contains both end node 1 and end node X with Home Address States 322 and 324, indicating end nodes directly connected to access node 300 which can perform local routing between end node 1 and end node X via a wireless link using the mobility agent module 302)* (Tsirtsis, paragraphs [0027 - 0028]).

5. As to claim 2, Tsirtsis teaches the method of claim 1, wherein said method is implemented using standard mobile Internet Protocol *(Mobile IPv4 and IPv6)*.

6. As to claim 3, Tsirtsis teaches the method of claim 1, wherein said first care-of-address is included in a registration request from said first mobile node *(end node X 162 registers the address associated with a foreign agent as a care of address with its home agent 130 in its home network 128)* (Tsirtsis, Fig. 1 and paragraph [0021]).

7. As to claim 4, Tsirtsis teaches the method of claim 1, wherein said edge mobility agent is instructed to perform local routing via a registration reply responsive to said registration request *(i.e., detecting that the access node 300 includes the mobility agent module 302 that supports end node mobility and connectivity management services capable of providing node mobility, session establishment, and session maintenance services to connected end nodes, i.e., to perform local routing for end node 1 and end node X directly connected to the access node 300 with Home Address States 322 and 324 contained in its State Information 310)* (Tsirtsis, paragraphs [0027-0028]).

8. As to claim 5, Tsirtsis teaches the method of claim 1, wherein said at least one condition includes at least one of detecting that said edge mobile agent is configured for performing local routing; and detecting a need for local routing for said first mobile node *(i.e., detecting that the foreign agent 300 includes the mobility agent module 302 that supports end node mobility and connectivity management services capable of providing node mobility, session establishment, and session maintenance services to connected end nodes)* (Tsirtsis, paragraphs [0027-0028]).

9. Claim 9 contains similar limitations as method claim 1; therefore, it is rejected under the same rationale.

10. As to claim 10, Tsirtsis teaches the method of claim 1, wherein said edge mobility agent is one of a foreign agent, a mobile router and an edge router *(access node 114 of Fig. 1 serves as a Foreign Agent)* (Tsirtsis, Fig. 1 and paragraph [0026]).

11. Claims 23-24 are corresponding method claims of method claim 1; therefore, they are rejected under the same rationale.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsirtsis, in view of Perkins et al. (Route Optimization in Mobile IP), hereafter referred as Perkins.

14. As to claims 6-7, Tsirtsis teaches the method of claim 1, but does not explicitly teach detecting at least one change in local routing for said first mobile node; and notifying (communicating to) said edge mobility agent of said at least one change in local routing for said first mobile node.

In a related art, Perkins teaches a system and method for route optimization in Mobile IP, wherein a mobile node receives a new Care-of-Address when it roams to a new access point, it MAY send a Binding Warning message to its Home Agent *(i.e., detecting at least one change in local routing for said first mobile node)* requesting that the home agent send Binding Update messages to one or more correspondent nodes including the previous foreign agent for notification of the mobile node's current mobility binding *(i.e., notifying said edge mobility agent of said at least one change in local routing for said first mobile node)* (Perkins, Sections 4.1 and 4.3, pages 8-9).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Tsirtsis and Perkins to include detecting at least one change in local routing for said first mobile node; and notifying (communicating to) said edge mobility agent of said at least one change in local routing for said first mobile node since such methods were conventionally employed in the art to notify the correspondent nodes of the new binding information so that they also can update their binding for the mobile node to allow datagram in flight to the mobile node's previous foreign agent to be forwarded to its new care-of-address.

15. As to claim 8, Tsirtsis-Perkins teaches the method of claim 7, wherein said at least one change in local routing is based on a new first care-of-address for said first mobile node *(when the mobile node receives a new Care-of-Address, it MAY send a Binding Warning message to its Home Agent)* (Perkins, Section 4.1, page 8).

16. Claims 11-22 and 26 are corresponding method claims of method claims 1-10 and 25; therefore, they are rejected under the same rationale.

Response to Arguments

17. In the remarks, Applicant argued in substance that

(**A**) Prior Arts fail to teach or suggest "determining, based upon at least one condition, that the edge mobility agent can perform local routing of at least one diagram for said first mobile node without the at least one datagram being tunneled through a mobility server" as claimed.

As to point (**A**), Tsirtsis teaches with addresses of directly connected end nodes to the access node 300 stored in its state information 310 as illustrated in Fig. 3, its mobility agent module 302 can forward the decapsulated diagram to the end mobile node 1 or end mobile node X directly connected to access node 300 via a wireless link

(i.e., performs local routing the diagram for the mobile node without the at least one datagram being tunneled through a mobility server) (Tsirtsis, Fig. 3 and paragraphs [0027 - 0028]).

(**B**) Prior Arts fail to teach or suggest "instructing said edge mobility agent to perform local routing of at least one datagram between said first mobile node and a second mobile node that has a second care-of-address that is known to said edge mobility agent", as claimed.

As to point (**B**), Tsirtsis teaches the state information 310 of the access node 300 contains both end node 1 and end node X with Home Address States 322 and 324, indicating end nodes 1 and X both directly connected to access node 300, therefore, the mobility agent module 302 allows the access node 300 to support end node mobility and connectivity management services capable of providing node mobility, session establishment and session maintenance services to connected end nodes 1 and X *(i.e., perform local routing between end node 1 and end node X via a wireless link using the mobility agent module 302)* (Tsirtsis, paragraphs [0027 - 0028]).

18. Applicant's arguments as well as request for reconsideration filed on 10/31/2005 have been fully considered but they are not deemed to be persuasive.

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER